Cost of Illness of Stable Angina

Marcia M. Ward, PhD

VA Medical Center, Iowa City; Iowa City, IA

BACKGROUND / RATIONALE:

Coronary heart disease (CHD) is the leading cause of death in United States, resulting in more than 700,000 deaths in 2000 (NCHS, 2001). The principal symptom of CHD is angina pectoris, which refers to intermittent chest pain caused by transient myocardial ischemia (Pepine, 1998, Kumar, 2003). The three major variants of angina pectoris are stable angina pectoris, prinzmetal or variant angina, and unstable angina pectoris. Stable angina often progresses to more severe heart conditions, which lead in many cases to infarction and death. In 2000, 6.6 million Americans were diagnosed with angina pectoris. There is limited literature related to specific costs of illness of CHD and no articles covering the cost of stable angina. Previous studies used methods such as literature review, expert opinion to estimate resource use, and some analysis of national survey data to determine the cost of CHD. None of them attempted to quantify the annual cost of stable angina.

OBJECTIVE(S):

The objective of the current study is to determine, from a societal perspective, a prevalence-based estimate of the direct costs for a stable angina in United States in the year 2000.

METHODS:

In order to estimate the cost of stable angina in the United States, estimates of the medical utilization related to stable angina were extracted from National Center for Health Statistics public use databases. These included the National Hospital Discharge Survey (NHDS), the National Ambulatory Medical Care Survey (NAMCS), the emergency department and outpatient components of the National Hospital Ambulatory Medical Care Survey (NAMCS), the National Nursing Home Survey (NNHS), and the home care and hospice components of

the National Home and Hospice Care Survey (NHHCS). We chose these databases because the National Center of Health Statistics collects them nationally, usually on an annual basis, so they were almost all available for the year 2000, and because they reflect a true national sample with weights that can be used to project the data to the national population. Utilization data was extracted from all databases using the International Classification of Disease 9th edition, Clinical Modification (ICD9-CM) codes (AMA, 2002) for stable angina (413.0, 413.1, 413.9). All datasets contained multiple diagnosis categories for all subjects. All analyses are presented in two categories: first listed diagnosis only and diagnosis listed in any of the available positions. The latter category included three available positions for outpatient datasets and seven available positions for inpatient and nursing home datasets. Since there is no national cost database and most private insurance carriers consider cost information proprietary, the project used Medicare cost information and fee schedules to estimate costs for this study.

The three main reasons Medicare was chosen are 1) it is available to the public free of charge; 2) Medicare spends enormous resources to try and estimate costs and pays facilities and professionals according to those estimates; and 3) about sixty percent of the subjects with angina and related ICD9-CM diagnosis codes were over sixty-five and therefore eligible Medicare beneficiaries.

FINDINGS / RESULTS:

The analyses were completed to express the annual direct medical cost related to stable angina when it was the first listed diagnosis. Additional analyses computed the cost when stable angina was present as any of the available diagnoses. This former provides a conservative estimate of the cost of stable angina, the latter provides an estimate of the total medical cost for patient who have stable angina but were treated for any condition during a one year period. These analyses permit the range of costs that might be attributed to the care of stable angina in the United States for 2000 to be presented.

PUBLICATIONS: None at this time.